TWO NEW SPECIES OF NORTH AMERICAN NEOLASIOPTERA FROM BACCHARIS

(DIPTERA: CECIDOMYIIDAE—COMPOSITAE)

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ABSTRACT—Two new North American species of *Neolasioptera* reared from 2 different kinds of galls on *Baccharis halimifolia* L. are described: *N.* **lathami**, n. sp. from globular, soft, apical galls, and *N.* **baccharicola**, n. sp. from hard, cylindrical, stem galls. These gall midges are potential candidates for introduction to Australia as possible biological controls of *Baccharis*.

Recently Brian W. Willson of the Alan Fletcher Research Station, Queensland Department of Lands, Australia, sent to me for determination some specimens of a new species of Cecidomyiidae, described here as *Neolasioptera lathami*, n. sp. which he reared in Florida while collecting parasites of *Baccharis* for potential introduction to Australia as biological control agents. This species forms soft, more or less globular galls, ¼ to 1 inch in diameter, on the upper stems of *Baccharis halimifolia* L. and which in some cases stunt plant growth. There were already several series of the same species from other States in the U.S. National Museum, some of which had been collected in 1960 by F. D. Bennett of The Commonwealth Institute of Biological Control, West Indian Station, Trinidad, for the same purpose as Willson, and, also, a series of another very different species from Virginia, described here as *Neolasioptera baccharicola*, n. sp. which is responsible for a hard, woody, cylindrical gall at the base of *B. halimifolia* stems.

I have compared both new species to each other and to the other 12 Nearctic species of *Neolasioptera* that have been reared from stems of Compositae. These are: *albitarsis* (Felt), *ambrosiae* Felt, *erigerontis* (Felt), *eupatorii* (Felt), *helianthi* (Felt), *perfoliata* (Felt), *ramuscula* (Beutenmüller), *rudbeckiae* (Felt), *tertia* (Cockerell), *trimera* (Felt), *vernoniae* (Beutenmüller), and *weldi* (Felt). These species are better known as a group than the remaining *Neolasioptera* species in that both sexes are known for 10 of the 12 species and the larvae are known for 8 species. None of the species listed above is from *Baccharis*, but *albitarsis* and *ramuscula* are from *Aster* and *erigerontis* is from *Erigeron*; both *Aster* and *Erigeron* belong to the same tribe as *Baccharis*, the Astereae. There are 3 Argentine species of *Neolasioptera* that were reared from *Baccharis* spp. These are *cordobensis* Kieffer and Jörgensen from *Baccharis coridifolia* D.C., *interrupta* K. and J. from *B. juncea* (Lehm.) Desf., and *ornaticornis* K. and J. from *B.*

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salicifolia Pers. They are possibly closely related to *N. lathami*, n. sp. but more material must be reared from *Baccharis* in Argentina to be sure. The original descriptions (Kieffer & Jörgensen, 1910) are very sketchy and the type series cannot be located and are probably lost.

Neolasioptera lathami, n. sp.
(Figs. 1–6)

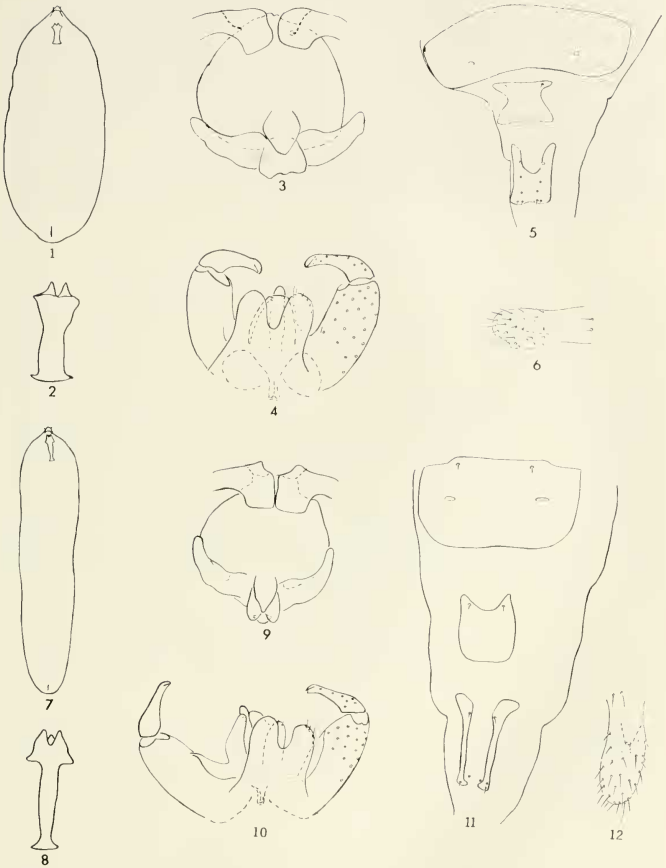
Adult. Wing length, 1.07–1.37 mm. Antenna: 11–12 flagellomeres in male, 13–17 in female. Palpus 3–4 segmented. Anepimeral setae, 10–24: anepisternal scales, 15–35. Wing: length R_5 (from arculus) to length remainder of wing as 62:58 (avg. 10 specimens); costa dark scaled except for white scales at junction of C and R_5. Legs covered with dark scales, unbanded. Male abdomen: tergum VI rectangular, very wide; tergum VII rectangular with several setae and scales present caudolaterally; tergum VIII unsclerotized; sternum X slightly wider than lobes of tergum X; genitalia as in fig. 4. Female abdomen (fig. 5): tergum VI 3 times as wide as long, rectangular, with double row of caudal setae and covered with scales; tergum VII about as wide as long, scalloped laterally, with 3–4 caudal rows of setae and the caudal ⅔ covered with scales; tergum VIII divided cephalad for about ½ its length, more strongly sclerotized laterally than mesally; setulae of distal ½ of ovipositor each with many short, straight prongs; dorsal lamella (fig. 6) short, bulbous; ventral lamella about .40 length dorsal lamella.

Pupa. Head as in fig. 3. Frontoclypeal setae absent.

Larva (fig. 1). Sternal spatula bidentate (fig. 2). Anal segment with 3 pair of papillae, subequal in length, ca. .010–.013 mm in length; dorsal and pleural papillae of abdominal segment VIII ca. .018 mm in length; cuticle covered with small, pointed verrucae, though those on pleurae may sometimes be rounded and larger than elsewhere.

Material examined. Holotype, male, reared from globular stem gall on *Baccharis halimifolia*, Yemassee, S.C., V-1960, F. D. Bennett, U.S. National Museum Type No. 70949. Paratypes (all reared from same kind of gall as holotype and from same host species and deposited in the U.S.N.M. except as noted): Orient, N.Y., VII-10-1967, R. Latham, 2 larvae, 3 pupae; Yemassee, S.C., V-1960, F. D. Bennett, 4♂, larva, 3 pupal exuviae; Charleston, S.C., VIII-10-1953, V. J. Reid, ♀, 4 larvae; Brunswick, Ga., V-1962, F. D. Bennett, 2♂, 7♀ (♂, ♀ in British Mus. (N.H.)); Lake Placid, Fla., along Hwy 70, VIII-12-1969, B. W. Willson, 8♂, 3♀ (2♂, 2♀, in Alan Fletcher Res. Sta., Queensland, Aust.); Dade Co., Fla., emerged IV-11-1969, #69-96A, C. E. Stegmaier, ♀; Haines City, Fla., V-1960, F. D. Bennett, 3♂; Bay St. Louis, Miss., I-26-1944, 5 larvae.

Remarks. *N. lathami* differs quite strongly from *N. baccharicola*, as can be seen from comparing the accompanying illustrations of the 2 species. The larva of *lathami* differs from the other Nearctic *Neolasioptera* considered here by the bidentate spatula and the short, broad body. The others have a tridentate or quadridentate spatula and long



Figs. 1–6. *Neolasioptera lathami*, n. sp.: 1, outline of larva (ventral); 2, spatula; 3, pupal head (ventral); 4, male genitalia (dorsal); 5, female abdominal terga VI–VIII; 6, lamellae of ovipositor (dorsal). Figs. 7–12. *N. baccharicola*, n. sp.: 7, outline of larva (ventral); 8, spatula; 9, pupal head (ventral); 10, male genitalia (dorsal); 11, female abdominal terga VI–VIII; 12, lamellae of ovipositor (dorsal).

spindle shaped bodies. However, larvae of the 3 Argentine species of *Neolasioptera* from *Baccharis* have bidentate spatulas.

The female of *lathami* has an incompletely divided tergum VIII and resembles only *rudbeckiae* in this respect; *N. weldi* and *N. trimera* have an undivided tergum VIII and all the others have it distinctly divided to form 2 elongate tergites. Otherwise, the female is easily separable from *rudbeckiae* by the number of flagellomeres: 13–17 in *lathami* and 21 in the latter, known from the female holotype only.

This species is named in honor of Mr. Roy Latham, now in his 90th year, a veteran farmer and amateur naturalist from Orient Point, New York.

Neolasioptera baccharicola, n. sp.
(Figs. 7–12)

Adult. Wing length, 1.36–1.63 mm. Antenna: 14–15 flagellomeres in male, 20–21 in female. Palpus 4 segmented. Anepimeral setae, 16–29, anepisternal scales, 45–75. Wing: length R_5 (from arculus) to length remainder of wing as 63 : 82 (avg. 4 specimens); costa dark scaled except for white scales at junction C and R_5. Legs covered with dark scales, probably unbanded. Male abdomen: terga VI–VII rectangular, covered entirely with scales and each with complete row of caudal setae; tergum VIII unsclerotized; sternum X narrower than lobes of tergum X; genitalia as in fig. 10. Female abdomen (fig. 11): tergum VI about 2 times as wide as long, with 3 more or less complete rows of setae caudally, and covered with scales; tergum VII slightly longer than wide, scalloped cephalad, with several rows of setae caudally, and caudal half covered with scales; tergum VIII completely divided to form 2 elongate sclerites; setulae of distal half of ovipositor each with many short, straight prongs; dorsal lamella (fig. 12) long, rounded distally; ventral lamella about .33 length dorsal lamella.

Pupa. Head as in fig. 9. Frontoclypeal setae absent.

Larva (fig. 7): Sternal spatula tridentate (fig. 8). Anal segment with 3 pair of papillae, the outer pair about .026 mm in length, about twice the length of the 2 inner pair; dorsal and pleural papillae of abdominal segment VIII about .030 long; cuticle covered with rounded verrucae.

Material examined. Holotype, male, reared from hard, cylindrical stem gall on *Baccharis halimifolia*, Virginia Beach, Va., V-1960, F. D. Bennett, U.S. National Museum Type No. 70950. Paratypes (same data as holotype): 3♂, 3♀, 4 pupal exuviae, 10 larvae (♂, ♀, in British Mus. (N.H.), remainder in U.S.N.M.).

Remarks. *N. baccharicola* is more closely related than *N. lathami* to the other species of *Neolasioptera* considered here. Of the 8 other species for which the larval stage is known, the following 6 resemble *N. baccharicola* in the tridentate spatula with a strong lateral development anteriorly: *albitarsis, ambrosiae, eupatorii, perfoliata, ramuscula,* and *weldi*. The remainder have either a quadridentate spatula (*erigerontis*) or a parallel-sided, tridentate spatula lacking the strong lateral extensions (*vernoniae*). Of the 6 with a spatula similar to that of *bac-*

charicola, ambrosiae, eupatorii, and *perfoliata* resemble that species in possessing 3 pair of terminal papillae instead of 4, but, unlike *baccharicola,* in which the outer pair is about 2 times the length of the 2 inner pair, the papillae are all subequal in length.

The female of *baccharicola* has a fully divided tergum VIII, as do most of the other composite inhabiting *Neolasioptera,* but the width of the 2 tergites at about midlength is about 1/15 that of the total length. Only *ambrosiae* and *erigerontis* approach that narrowness, all the others being more than 1/8 wide as long. Females of *baccharicola* can readily be separated from those 2 species by the number of flagellomeres: 20–21 in *baccharicola* and 16–17 in either *ambrosiae* or *erigerontis.*

Reference

Kieffer, J. J. *and* **P. Jörgensen.** 1910. Gallen und Gallentiere aus Argentinien. Centr. Bakteriol. Parasitenk. und Infektionskr. 27:362–444.

SPILOCHROA GEMINATA SABROSKY A SYNONYM OF S. POLITA (MALLOCH)

(Diptera: Trixoscelididae)

Spilochroa polita (Malloch, 1931, Proc. U. S. Natl. Mus. 78 [15]:30, *Diastata*) was described from female specimens. The holotype is labeled "N. Mexico / airplane / P. Glick." *S. geminata* Sabrosky (1961, Ent. News 72:233) was described from Arizona and Sonora, Mexico, largely upon differences in the maculation of the wing and with the statement that "no males of *polita* are available for comparisons of the male terminalia."

Material referable to either *polita* or *geminata* has been received several times from traps used in fruit fly surveys in the southwestern States, especially Arizona. This material is so variable in wing markings that I have been suspicious of the distinctness of *S. geminata.* Fortunately these flies have a fairly complex female postabdomen. The abdomen of the holotype of *S. polita* was therefore macerated. The sclerotization of the 7th segment consists in a complete ring, rather short dorsally and ventrally, but expanded laterally to twice the medial length and furnished with a series of rather strong setae around almost the entire posterior margin. The 8th sternum consists of 3 sclerites: a median, transversely lenticular piece flanked on each side by a narrowly triangular piece turned apicomesad and furnished with 2 rather strong and long apical setae. The 9th sternum is triangular with bulging sides and is furnished with a pair of well separated apical and a closely-set, somewhat heavier pair of subbasal, apically directed setae.

Females of the type series of *S. geminata* as well as those received from fruitfly traps in Arizona show postabdomens with the same characters as those of *S. polita.* I am therefore, with Sabrosky's concurrence, considering that the 2 species are synonymous.—George C. Steyskal, *Systematic Entomology Laboratory, Agricultural Research Service, U. S. Department of Agriculture, c/o U. S. National Museum, Washington, D. C. 20560.*